

## CLAIMS

What is claimed is:

1. A method for detecting data modifications in MIB tables, the method comprising:  
selecting a MIB table that has been modified;

5 determining whether the most recent modification is more recent than a recorded time indicating the last time that a poll was performed and when the most recent modification is more recent, retrieving a count of the number of modifications that have been performed on the selected table; and

determining whether the count can be resolved and when the count can not be resolved, retrieving at least one modified row for the selected table.

2. A computer-readable medium having stored thereon computer-executable instructions for performing a method for detecting data modifications in MIB tables, the method comprising:

selecting a MIB table that has been modified;

determining whether the most recent modification is more recent than a recorded time indicating the last time that a poll was performed and when the most recent modification is more recent, retrieving a count of the number of modifications that have been performed on the selected table; and

20 determining whether the count can be resolved and when the count can not be resolved, retrieving at least one modified row for the selected table.

3. An apparatus for detecting data modifications in MIB tables, the apparatus comprising:

means for selecting a MIB table that has been modified;

means for determining whether the most recent modification is more recent than a

5 recorded time indicating the last time that a poll was performed and means for, when the most recent modification is more recent, retrieving a count of the number of modifications that have been performed on the selected table; and

means for determining whether the count can be resolved and means for, when the count can not be resolved, retrieving at least one modified row for the selected table.

4. A method for initializing a system for detecting data modifications in MIB tables, the method comprising:

identifying at least one unregistered MIB table to be monitored for modifications;

registering the identified table;

5 initializing a count of the number of modifications that have been performed on the identified table; and

initializing a timestamp as to when a last modification was performed on the identified table.

20 5. The method as defined in claim 4, further comprising:

determining whether an observation of change notifications is desired or required for the identified table; and

when the observation of change notifications is desired or required, enabling observation for the identified table.

6. The method as defined in claim 4, further comprising registering a callback  
5 function for each registered table.

7. A computer-readable medium having stored thereon computer-executable instructions for performing a method for initializing a system for detecting data modifications in MIB tables, the method comprising:

identifying at least one unregistered MIB table to be monitored for modifications;  
registering the identified table;  
initializing a count of the number of modifications that have been performed on the identified table; and  
initializing a timestamp as to when a last modification was performed on the identified table.

8. The computer readable medium as defined in claim 7, wherein the method further comprises:

determining whether an observation of change notifications is desired or required for the  
20 identified table; and

when the observation of change notifications is desired or required, enabling observation for the identified table.

9. The computer readable medium as defined in claim 7, wherein the method further comprises registering a callback function for each registered table.

10. An apparatus for initializing a system for detecting data modifications in MIB  
5 tables, the apparatus comprising:

means for identifying at least one unregistered MIB table to be monitored for modifications;

means for registering the identified table;

means for initializing a count of the number of modifications that have been performed on the identified table; and

means for initializing a timestamp as to when a last modification was performed on the identified table.

11. The apparatus as defined in claim 10, further comprising:

means for determining whether an observation of change notifications is desired or required for the identified table; and

means for, when the observation of change notifications is desired or required, enabling observation for the identified table.

20 12. The apparatus as defined in claim 10, further comprising means for registering a callback function for each registered table.

13. A network device for detecting data modifications in MIB tables, the device comprising:

a table registrar for registering at least one MIB table to be monitored for modifications;

a notification controller for identifying each NMS that has registered a table with the

5 table registrar and for selectively generating notices as prescribed by each NMS;

a table modification recorder for identifying which tables have been modified, for maintaining a timestamp as to when the last modification was performed on a particular table, and for maintaining a count of the number of modifications that have been performed on the particular table; and

a row modification recorder for identifying which rows of a registered table have been modified, for identifying a type of modification, and for maintaining a copy of the row as modified.

14. The network device as defined in claim 13, further comprising a registered callback function for logging a modification record when a registered table experiences a modification.

15. A network device for detecting data modifications in MIB tables, the device comprising:

20 means for registering at least one MIB table to be monitored for modifications;

means for identifying each NMS that has registered a table with the table registrar;

means for selectively generating notices as prescribed by each NMS;

means for identifying which tables have been modified;

means for maintaining a timestamp as to when the last modification was performed on a particular table;

means for maintaining a count of the number of modifications that have been performed on the particular table;

5 means for identifying which rows of a registered table have been modified;

means for identifying a type of modification; and

means for maintaining a copy of the row as modified.

16. The network device as defined in claim 15, further comprising means for logging a modification record when a registered table experiences a modification.